



MEDEAS
MODELING THE RENEWABLE ENERGY TRANSITION IN EUROPE



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MEDEAS workshop. Designing a new energy- economy model

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CENTRE FOR RENEWABLE
ENERGY SOURCES AND SAVING





Club of Rome and 'The limits to Growth'

MEDEAS: Guiding European Policy toward a low-carbon economy. Modelling sustainable Energy system Development under Environmental And Socioeconomic constraints.

The ideas that underpin the MEDEAS project are inspired by the 'Limits to Growth' research and ideas exposed there, already valid nowadays. Some of them are:

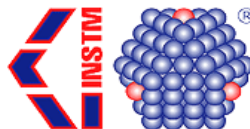
- Energy system must be changed from fossil fuels to Renewable Energy Sources.
- Such 'Energy Transition' now is a must, due to the effects foreseen in the book, which are now happening (BAU scenario).
- The transition must face also the materials use for the new system and for the transition.
- The Renewable Transition couldn't happen without socio-economic changes together, which must support the transition.



ICM-CSIC (Spain)



INSTM (Italy)



UVA (Spain)



ARU (UK)



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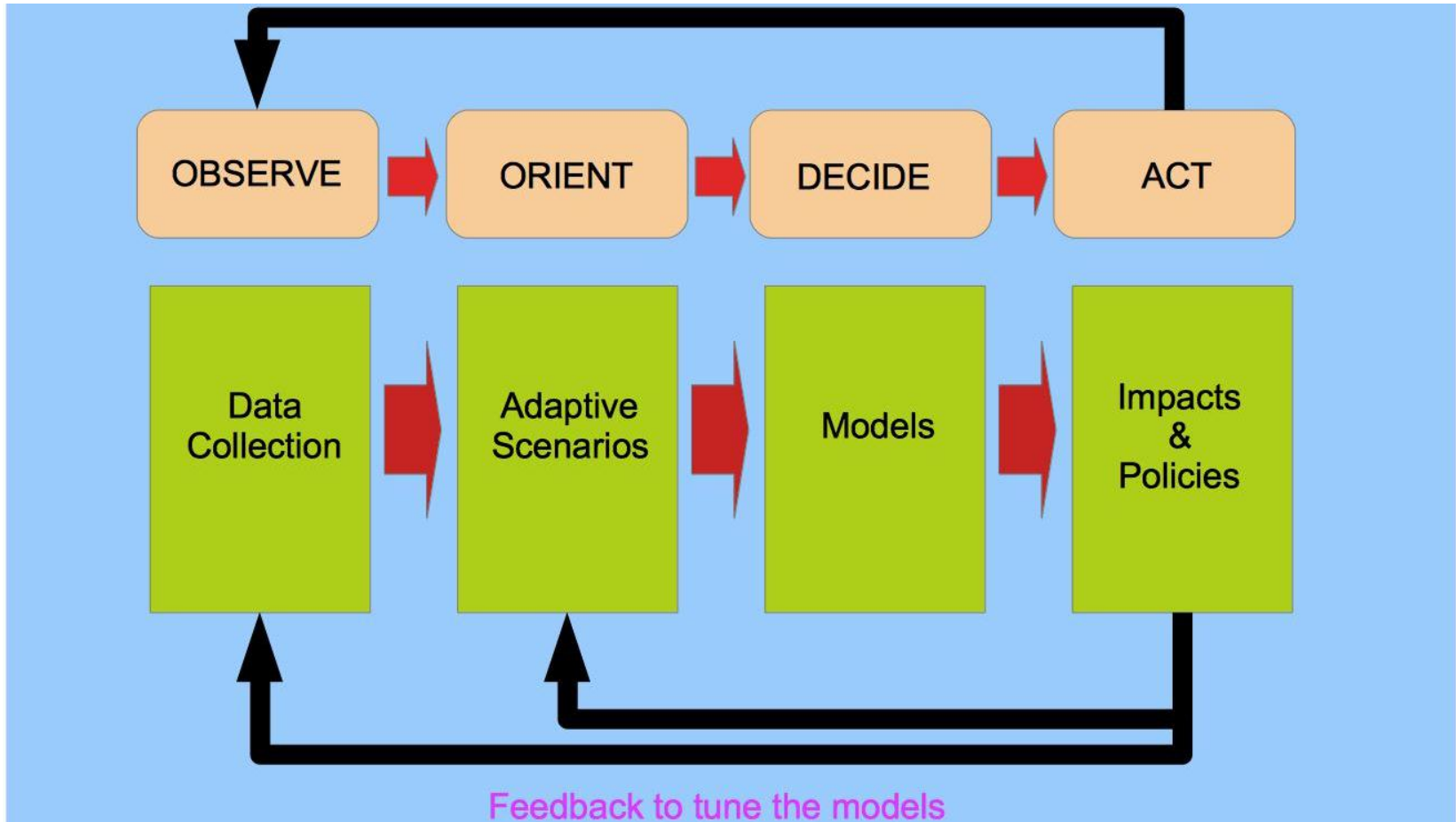
- MEDEAS is constructing 4 models which pretend to be a leading-edge policy **tools based on a system dynamics approach**. MEDEAS models will be compared with TIMES and LEAP models.
- MEDEAS models have **modular design** to deal with different levels of complexities and interests of stakeholders at great sectorial and spatial detail.
- **Transparency is assured** through Open access freeware distribution of the model based on the open access programming language (Python), including free internet courses and learning materials.



- Help to **close the gap between policy design and model implementation** and then, provide support analysis in policy issues regarding RES, fossil fuels and new energy forms.
- MEDEAS model aims to be effective and credible then it will be publicly available so that the model can be broadly contrasted.
- Feedback between **energy system and socio-economic variables** is considered.
- **MEDEAS is constructed** using the information provided by key data analysis (using Partially Aggregated Variables, PAV) and selected scenarios, and improved using models inter-comparisons and impacts/policies analysis.



MEDEAS model construction conceptual scheme





Thank you!

